

REMARKS

With this Response, no claims are amended or canceled. Applicants respectfully request that new claims 66-71 be considered. Therefore, claims 41-71 are pending.

CLAIM REJECTIONS - 35 U.S.C. § 103

Claim 41

Claim 41 was rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,356,528 to Lundby et al. (hereinafter "Lundby") in view of U.S. Patent No. 5,461,646 of Anvari (hereinafter "Anvari"). Applicants respectfully submit that this claim is not rendered obvious by the cited references for at least the following reasons.

Claim 41 as amended herein recites:

determining that an effective signal strength of a signal on a wireless communication link using signal diversity in one or more of the space, time, or frequency domains is insufficient to provide a desired communication range;
introducing signal diversity in an additional of the space, time, or frequency domains **into the wireless communication link in response to the determining** to generate multiple decorrelated signals corresponding to the signal **on the wireless communication link**; and
selectively combining the decorrelated signals and demodulating the combined, decorrelated signals to generate a representation of the content of the signal.

Applicants respectfully submit that Lundby and Anvari fail to disclose or suggest dynamic introduction of signal diversity into a communication link in response to determining that an effective signal strength of the signal is insufficient to provide a desired communication range. Although Lundby and Anvari may mention various types of signal diversity, and although Lundby may further discuss the use of multiple forms of signal diversity on the same signal (see col. 3, lines 28 to 50), the diversity schemes in the cited references is fixed. Whether alone or in combination, the cited references fail to render obvious the claimed invention, at least for failing to disclose at least one element of the claimed invention. The disclosing of multiple forms of diversity **does not** constitute the disclosing or suggesting of **introducing additional** diversity into a wireless communication link in response to determining an effective signal strength of a signal is insufficient, as recited in claim 41.

As previously discussed, Anvari suffers a similar defect to Lundby. Neither reference discloses or suggests the introducing of additional diversity into a signal. The signals discussed in the references assume a certain diversity scheme with their signals, and those diversity

schemes remain **fixed**. Thus, whether alone or in combination, the references fail to disclose or suggest at least one element of the claimed invention, and so fail under MPEP § 2143 to render obvious the invention as recited in claim 41.

Claim 42

Claim 42 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Lundby and Anvari in view of U.S. Patent No. 5,369,412 of Tsujimoto (hereinafter "Tsujimoto"). Applicants respectfully submit that this claim is not rendered obvious by the cited references for at least the following reasons.

Claim 42 recites the following:

providing a wireless communication link with a level of diversity;
detecting a degradation of signal quality on the wireless communication link; and
dynamically introducing additional diversity on the wireless communication link to result in the wireless communication link having diversity in two or more of the space, time, or frequency domains in response to detecting the degradation of signal quality, to generate a plurality of decorrelated signals to be selectively combined with at least the use of a weight vector and demodulated to provide a representation of an originally transmitted signal.

The merits of Lundby and Anvari are discussed above with respect to their deficiencies in disclosing introducing additional diversity on a wireless communication link. In further discussion of Lundby, Applicants note that the Office Action at page 3 refers to col. 3, lines 28 to 50 of the reference as disclosing the invention. Applicants observe that the paragraph uses the expression "introducing diversity into a transmitted signal" at lines 40 to 41. Applicants note that the expression as used in the reference refers to the fact that a signal is prepared for transmission, and then processed to be transmitted with diversity. Thus, diversity is "introduced" into the signal. However, nowhere does the Lundby reference, nor the other cited references, suggest that signals are transmitted with a particular diversity scheme, which is then changed to introduce additional diversity into the signal. In contrast to the cited references, claim 41 refers to introducing diversity in response to determining a signal is degraded, and claim 42 refers to providing a signal with a diversity level, and dynamically introducing additional diversity. Both claims recite "introducing" diversity into a signal that has a level of diversity, which may be referred to as a diversity scheme. An existing diversity scheme is dynamically changed. In contrast, the references simply suggest implementing a diversity scheme. Thus, the references fail to disclose or suggest at least one element of the claimed invention, and so fail to render obvious the invention as recited in the independent claims. The addition of the Tsujimoto

reference fails to cure the deficiencies of Lundby and Anvari. As with Lundby and Anvari, Tsujimoto fails to disclose or suggest at least the claim limitation of introducing diversity in response to determining a signal is degraded, as in claim 41, or providing a signal with a diversity level, and dynamically introducing additional diversity, as in claim 42. Whether alone or in combination, the references fail to disclose or suggest at least one element of the claimed invention, and so fail to support an obviousness rejection of the independent claims under MPEP § 2143.

Claims 43-65

These claims were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lundby, Anvari, and Tsujimoto in combination with a variety of references. Specifically, claim 43 was rejected in combination with U.S. Patent No. 6,643,494 of Worthy (hereinafter "Worthy"); claim 44 was rejected in combination with U.S. Patent No. 6,591,382 of Molloy et al. (hereinafter "Molloy"); claim 45 was rejected in combination with Molloy and U.S. Patent No. 5,722,051 of Agrawal et al. (hereinafter "Agrawal"); claims 46-51 were rejected in combination with U.S. Patent No. 6,052,594 of Chuang et al. (hereinafter "Chuang") and U.S. Patent No. 6,170,075 B1 of Schuster et al. (hereinafter "Schuster"); claims 52-54 were rejected in combination with Chuang, Schuster, U.S. Patent No. 3,195,049 of Altman et al. (hereinafter "Altman"), and U.S. Patent No. 5,881,105 of Balachandran et al. (hereinafter "Balachandran"); claim 53 was rejected in combination with Chuang, Schuster, Altman, Balachandran, and U.S. Patent No. 6,694,155 B1 of Chin et al. (hereinafter "Chin"); claim 55 was rejected in combination with U.S. Patent No. 6,044,349 issued to Tolopka et al. (hereinafter "Tolopka"); claim 56 was rejected in combination with Tolopka, Molloy, and Agrawal; claim 57 was rejected in combination with Tolopka, Chuang, and Schuster; claims 58-59 were rejected in combination with Molloy; claim 60 was rejected in combination with Molloy and Agrawal; claims 61-64 were rejected in combination with Molloy and Chuang; and claim 65 was rejected in combination with Molloy, Chuang, Schuster, Altman, and Balachandran.

As explained above, each of these rejections is based on the defective rejection under Lundby, Anvari, and Tsujimoto, as set forth above. These references are not cited as curing the deficiencies pointed out above, and Applicants submit that they indeed fail to cure the deficiencies set forth above. Specifically, claims 55 and 58 are independent and recite limitations similarly directed to the limitations discussed above with respect to Lundby, Anvari, and

Tsujimoto. Thus, the discussion above of the deficiencies of Lundby, Anvari, and Tsujimoto applies also to claims 55 and 58, and the cited references fail under MPEP § 2143 to render these claims obvious. Applicants thus submit that claims 41, 42, 55, and 58 are nonobvious over the cited references. Claims that depend from a nonobvious base claim are also nonobvious. MPEP § 2143.03. Thus, the references, whether alone or in combination, fail to disclose or suggest at least one element of the invention as recited in the independent claims, and so fail to render obvious the invention as recited in the dependent claims.

New Claims 66-71

Applicants respectfully submit that these claims include at least one feature not disclosed or suggested by the cited references. Therefore, these claims should be allowable over the cited references.

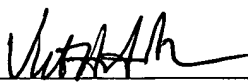
CONCLUSION

For at least the foregoing reasons, Applicants submit that the rejections of the claims have been overcome herein, placing all pending claims in condition for allowance. Such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the above-referenced application.

Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
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Date: August 4, 2006



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